

West Nile virus (WNV) is mainly transmitted to people by the bite of an infected mosquito. Mosquitoes become infected when they feed on infected birds. WNV was first detected in North America in 1999, and the first human case of West Nile virus infection in Canada was reported in Ontario in 2002. Questions related to WNV awareness and mosquito protection were added to RRFSS in 2002.

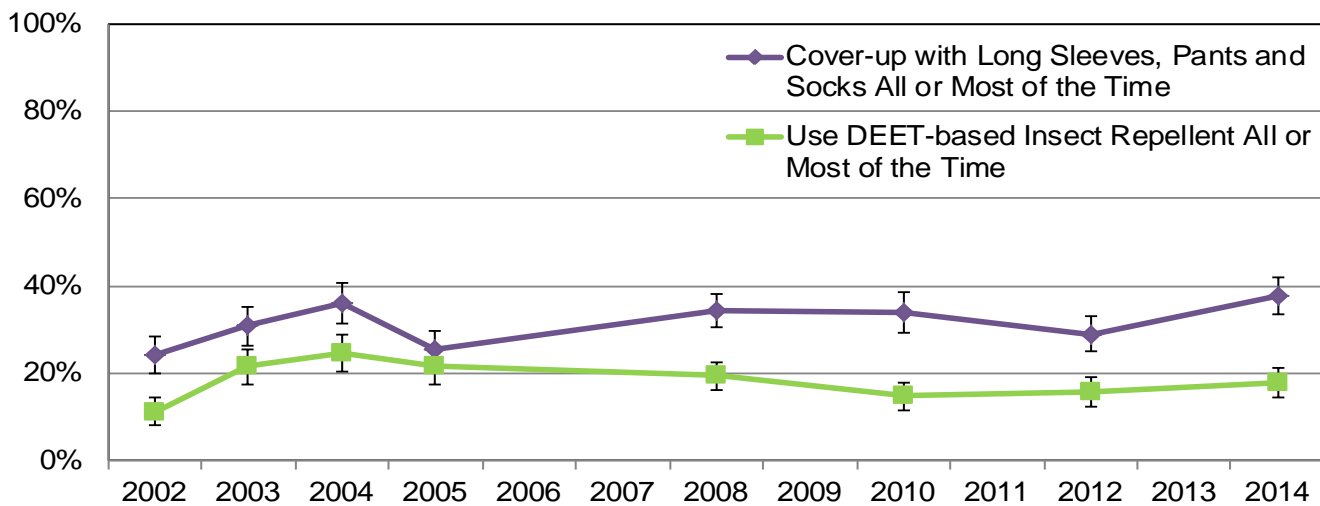
## Awareness

- In 2014, 98% ( $\pm 1\%$ ) of adults in Durham Region had heard of WNV and 89% ( $\pm 3\%$ ) knew that WNV is passed on to people by mosquitoes; no significant change from 2003 when the questions were last asked.

## Personal Protection

- Covering up and using insect repellent to protect from mosquito bites increased significantly during the two years after the first cases were reported in Ontario, but has since varied annually and levelled off.
- Although there has not been an increasing trend in the percentage of residents who cover-up with long sleeves, pants and socks all or most of the time to protect themselves from mosquito bites, it was significantly higher in 2014 (38%  $\pm 4\%$ ) than 2012 (29%  $\pm 4\%$ ).
- Use of DEET-based insect repellent varied between 15% and 19% ( $\pm 3\%$ ) from 2008 to 2014.

**Figure 1. West Nile Virus Personal Protection, Adults 18+, Durham Region, 2002-2014**



**Table 1- West Nile Virus Personal Protection, Adults 18+, Durham Region, 2002-2014**

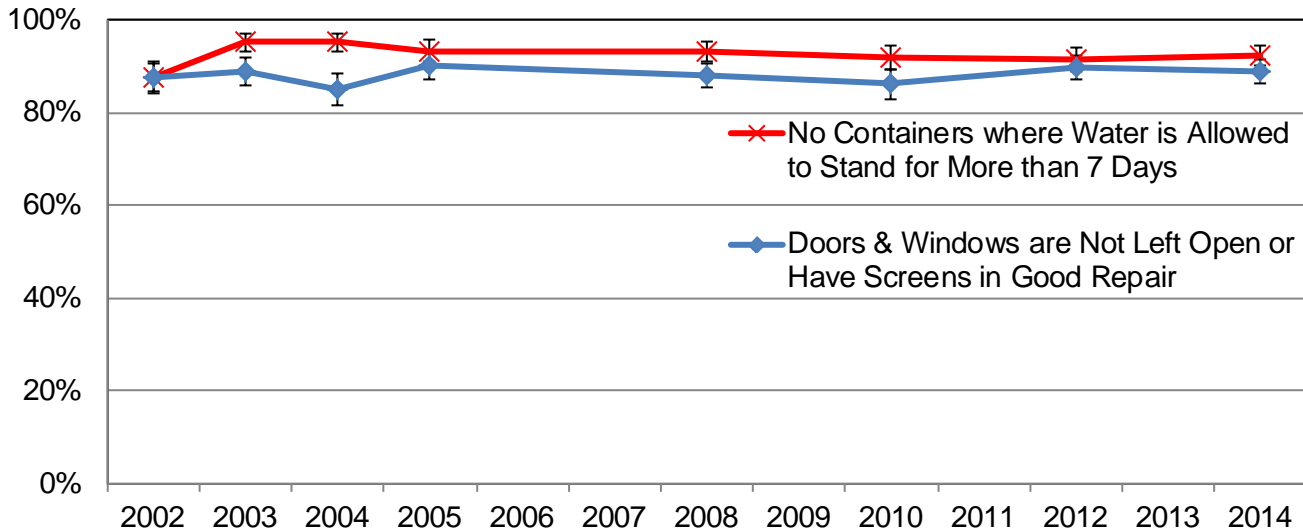
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Cover-up with Long Sleeves/Pants/Socks All/Most of the Time	24%	31%	36%	26%	NA	NA	34%	NA	34%	NA	29%	NA	38%
Use DEET-based Insect Repellent All/Most of the Time	11%	21%	25%	22%	NA	NA	19%	NA	15%	NA	16%	NA	18%

NA: The West Nile Virus Mosquito Protection questions were not asked in 2006, 2007, 2009, 2011 and 2013.

## Household Protection

- Most households in Durham Region do not have containers outside where water is allowed to collect and stand for more than 7 days, varying from 91% ( $\pm 3\%$ ) to 93% ( $\pm 2\%$ ) of households since 2005.
- In 2014, most households (89%  $\pm 3\%$ ) had all door and window screens in good repair or did not leave doors and windows open: 71% ( $\pm 4\%$ ) reported having screens with no holes or tears and 18% ( $\pm 3\%$ ) did not leave doors and windows open. Eleven percent (11%  $\pm 3\%$ ) of households had screens in need of repair or had windows and doors without screens.

**Figure 2. West Nile Virus Household Protection, Durham Region, 2002-2014**



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	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
No Containers where Water Stands for More than 7 Days	88%	95%	95%	93%	NA	NA	93%	NA	92%	NA	91%	NA	92%
Doors and Windows Not Left Open/Screens in Good Repair	87%	89%	85%	90%	NA	NA	88%	NA	86%	NA	90%	NA	89%

NA: The West Nile Virus Mosquito Protection questions were not asked in 2006, 2007, 2009, 2011 and 2013.

## **Rapid Risk Factor Surveillance System (RRFSS)**

RRFSS was piloted in Durham Region in 1999 and has been used to collect information about the health knowledge, attitudes and behaviours of Durham Region residents routinely since 2001. The information collected is used to support the planning and evaluation of effective public health programs and services. RRFSS is conducted by the Institute for Social Research at York University on behalf of participating Ontario health units. RRFSS is an ongoing telephone survey of adults aged 18 and over who live in private households. The annual response rate for Durham Region has ranged from 51% to 61% and was 54% in 2014.

## **95% Confidence Interval (CI)**

Percentages are expressed as a point estimate with 95% confidence intervals around the estimate. The true or actual percentage falls within the range of values, 95 out of 100 times. A wide confidence interval reflects a large amount of variability or imprecision. Usually the larger the sample size the narrower the CI. In charts, the 95% CI is represented by an error bar (I ).

## **Significant Difference**

This refers to a difference between two estimated percentages that is not likely due to chance. If the 95% confidence intervals of two estimates do not overlap there is considered to be a significant difference between the estimates. If the intervals overlap slightly a test of significance ( $p < .05$ ) is conducted.

## **Methods & Limitations**

RRFSS is conducted using computer-assisted telephone interviewing. Within households, the adult with the most recent birthday is selected to participate in the survey. Results are self-reported and may not be recalled accurately. Individuals not living in households (such as those in prison, hospitals, or the homeless) were excluded. Individuals who live in a household without a landline will also not be reached through RRFSS. As a result, the percentages may not represent the true estimates for the general population.

Household weights were used for the analysis of questions related to individuals. The weights adjust for the fact that an adult in a larger household is less likely to be selected than an adult in a smaller household.

## **Data Collection Period**

January 2002 to August 2014. Not all survey questions were asked every year so trends for some indicators do not include data for all years in this period.

For more information contact the Durham Region Health Department  
905-668-7711 or 1-800-841-2729 or [durham.ca](http://durham.ca)

For RRFSS information [rrfss.ca](http://rrfss.ca)

If you require this information in an accessible format, contact 1-800-841-2729.